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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/402,021	09/27/1999	MINORU TSUJI	KOIK-P9143	5446

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EXAMINER

SELLERS, DANIEL R

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/402,021

Applicant(s)

TSUJI ET AL.

Examiner

Daniel R. Sellers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,9-15,18,19 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,9-15,18,19 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3, 5-7, 9-15, 18, 19, and 25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-3, 5-7, 9-15, 18, 19, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shishido and Ware et al., U.S. Patent No. 5,537,573 (hereinafter Ware).

4. Regarding claim 1, see the previous office action rejection of claim 1 under 102(e). Shishido teaches all the features of claim 1 except the limitation "deleting said block...." Ware teaches a cache system for reducing latency and improving cache hit rate, or the likelihood that needed data is stored in a faster cache memory. Ware teaches the feature of receiving information indicating the period of time a data block is retained and the feature of deleting accordingly (Col. 6, line 62 – Col. 7, line 8). It would have been obvious for one of ordinary skill in the art to combine the teachings of Shishido and Ware for the purpose of providing a high cache hit rate and low latency (Ware, Col. 2, lines 52-54). A high cache hit rate, in this context, would reduce the need for retrieving the reused data block over and over again from a slower solid-state memory or an even slower spinning drive.

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5. Regarding claim 2, the further limitation of claim 1, see the previous office action and the preceding argument with respect to claim 1. The combination of Shishido and Ware teach these features.

6. Regarding claim 3, the further limitation of claim 1, see the previous office action. The combination of Shishido and Ware teach this feature.

7. Regarding claim 5, the further limitation of claim 1,

... wherein the period of time begins....

See Ware, column 6, line 66 – column 7, line 1. Ware teaches that a period of time starts when the data is read in, or accessed. It is taught previously, in Ware, that data is read in to the cache when it is accessed for the first time.

8. Regarding claim 6, the further limitation of claim 1, see the preceding argument with respect to claim 1. Ware teaches that a predetermined period of time or a predetermined number of accesses determines when a block of data is removed from the cache .

9. Regarding claim 7, the further limitation of claim 1, see the preceding argument with respect to claim 5. Ware teaches the use of a predetermined period of time to determine the time of deletion, and it is inherent that a predetermined time can be referenced from the start of processing.

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10. Regarding claim 9, the further limitation of claim 1, see the preceding argument with respect to claims 5 and 7. Shishido, further, teaches the use of timing events, which inherently can be used to indicate the start of the period of time for retention.

11. Regarding claim 10, the further limitation of claim 1, see the previous office action. Shishido teaches the use of added information to compress the file. Ware teaches the use of timing information for retention and deletion purposes. It is obvious to combine the two as stated previously.

12. Regarding claim 11, the further limitation of claim 1, see the preceding argument with respect to claim 1. Ware teaches the use of timing information for retention and deletion purposes, wherein Ware is proposing a solution to cache misses and improving cache hits. Ware is also attempting to use the cache more efficiently (Col. 5, lines 20-24). It is inherent to delete the block of data after it is used for a final time for these reasons.

13. Regarding claim 12, the further limitation of claim 1, see the preceding argument with respect to claim 11. It is inherent that to improve cache hits, the block would be retained until it was unnecessary.

14. Regarding claim 13, the further limitation of claim 1, see the preceding argument with respect to claim 11. It is inherent to delete the information when it becomes unnecessary for the purpose of efficient memory usage.

15. Regarding claim 14, the further limitation of claim 1, see the preceding argument with respect to claim 1. In this context, it is inherent that a predetermined bit string, in either hardware or software, defines a predetermined time period.

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16. Regarding claim 15, see the previous office action. Shishido teaches these features except for the information indicating a period of time for retention. It is inherent that the method Shishido discloses includes control means for memory management, and deleting, overwriting, or reallocation are basic functions of a memory management system. As stated previously, Ware teaches the use of timing information for the purpose of retention.

17. Regarding claim 18, the further limitation of claim 15, see the previous office action. The combination of Shishido and Ware teach this feature.

18. Regarding claim 19, the further limitation of claim 15, see the previous office action. The combination of Shishido and Ware teach this feature.

19. Regarding claim 25, see the preceding argument with respect to claim 15. The combination of Shishido and Ware teach these features.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rosenau et al., U.S. Patent 5,598,352, Gannon, U.S. Patent 5,990,407, and Abrams et al., U.S. Patent 6,658,309. These references were included in the first office action on the merits.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRS



SINH TRAN
SUPERVISORY PATENT EXAMINER